

IN THE CLAIMS

1. (currently amended) A porous metal scaffold for use in an implantable medical device comprising:

a porous metal foam network having an open cell structure wherein the openings of each cell are formed by metal webs, at least some of the webs covered with at least one layer of metal particles, the metal particles being bonded to the metal webs wherein the bonding is accomplished by sintering the metal particles to said webs.

2. (original) The porous metal scaffold as set forth in claim 1, wherein said metal webs form a continuous inner skeleton of said porous metal scaffold.

3. (previously presented) The porous metal scaffold as set forth in claim 1, wherein the size of the cell openings may be varied by bonding additional layers of metal particles to said at least one layer.

4. (previously presented) The porous metal scaffold as set forth in claim 1 wherein the size of the cell openings is varied by changing a size of the metal particles.

5. (cancelled).

6. (currently amended) A porous metal scaffold for use in an implantable medical device comprising:

a porous metal foam network having an open cell structure wherein the openings of each cell are formed by metal webs, at least some of the webs covered with at least one layer of metal particles, the metal particles being bonded to the metal webs ~~The porous metal scaffold as set forth in claim 1~~ wherein said webs have partially hollow cores wherein the hollow cores of said metal webs are surrounded by an outer web wall that has openings therein.

7. (cancelled).

8. (previously presented) The porous metal scaffold as set forth in claim 1, wherein the size of the cell openings ranges from 100 μm to 1000 μm .

9. (previously presented) The porous metal scaffold as set forth in claim 8, wherein the pore volume of the scaffold ranges from 50% to 90%.

10. (original) The porous metal scaffold as set forth in claim 9, wherein the scaffold is formed into a shape having a thickness of 0.5 mm to 5 mm.

11. (original) The porous metal scaffold as set forth in claim 1, wherein the metal scaffold is bonded to a solid metal substrate.

12. (currently amended) The porous metal scaffold as set forth in claim ~~9844~~, wherein the metal scaffold is directly bonded to the solid metal substrate.

13. (currently amended) The porous metal scaffold as set forth in claim ~~9844~~, wherein the metal scaffold is sintered to the solid metal substrate.

14. (original) The porous metal scaffold of claim 1, wherein the scaffold includes a plurality of pores having a size greater than about 100 μm .

15. (original) The porous metal scaffold of claim 1, wherein the metal particles have a size from 40 μm to about 80 μm .

16. (original) The porous metal scaffold as set forth in claim 14, wherein the metal of the particles is selected from the group consisting of titanium, titanium alloy, cobalt chrome alloy, niobium and tantalum.

17. (currently amended) The porous metal scaffold as set forth in claim 1, wherein the web metal is selected from the group consisting of titanium, titanium alloy, cobalt chrome alloy, niobium and tantalum.

18. (currently amended) The porous metal scaffold as set forth in claim ~~9844~~, wherein the metal substrate is part of an orthopedic implant.

Claims 19-78 (cancelled).

79. (original) The porous metal scaffold of claim 1, further comprising a biocompatible coating.

Claims 80-81 (cancelled).

82. (previously presented) A porous metal scaffold for use in an implantable medical device comprising:

a porous metal foam network having an open cell structure wherein the opening in each cell is surrounded by metal webs formed on a tissue contacting surface of the medical device, the metal webs being thicker on a side thereof facing towards the tissue contacting surface, the webs covered with at least a first layer of metal particles, the metal particles being bonded to the metal webs to produce a final cell opening size.

83. (previously presented) The porous metal scaffold as set forth in claim 82 wherein said metal webs form a continuous inner skeleton of said porous metal scaffold.

84. (previously presented) The porous metal scaffold as set forth in claim 82 wherein at least one additional layer of metal particles is bonded to said first layer.

85. (previously presented) The porous metal scaffold as set forth in claim 82 wherein the size of the metal particles is between 20 μm and 100 μm .

86. (previously presented) The porous metal scaffold as set forth in claim 82 wherein said webs have partially hollow cores.

87. (previously presented) The porous metal scaffold as set forth in claim 86 wherein the hollow cores of said metal webs are surrounded by an outer web wall that has openings therein.

88. (previously presented) The porous metal scaffold as set forth in claim 82 wherein said final size of the cell openings ranges from 100 μm to 1000 μm .

89. (previously presented) The porous metal scaffold as set forth in claim 88 having a final pore volume of the metal scaffold is 50% to 90%.

90. (previously presented) The porous metal scaffold as set forth in claim 89 wherein the porous metal network has a thickness of 0.5 mm to 5 mm.

91. (previously presented) The porous metal scaffold as set forth in claim 82 wherein

the metal scaffold is bonded to a solid metal substrate.

92. (previously presented) The porous metal scaffold as set forth in claim 82 wherein the metal scaffold is bonded directly to the solid metal substrate.

93. (previously presented) The porous metal scaffold as set forth in claim 91 wherein the metal scaffold is bonded by sintering.

94. (previously presented) The porous metal scaffold of claim 82 wherein the scaffold includes a plurality of final cell openings having a size greater than about 100 μm .

95. (previously presented) The porous metal scaffold of claim 82 wherein the metal particles have a size from 40 μm to about 80 μm .

96. (previously presented) The porous metal scaffold as set forth in claim 95 wherein the metal of the particles is selected from the group consisting of titanium, titanium alloy, cobalt chrome alloy, niobium and tantalum.

97. (previously presented) The porous metal scaffold is as set forth in claim 82 wherein the web metal is selected consisting of titanium, titanium alloy, cobalt chrome alloy, niobium and tantalum.

98. (new) A porous metal scaffold for use in an implantable medical device comprising:

a porous metal foam network having an open cell structure wherein the openings of each cell are formed by metal webs, at least some of the webs covered with at least one layer of metal particles, the metal particles being bonded to the metal webs wherein the metal scaffold is bonded to a solid metal substrate.

99. (new) A porous metal scaffold for use in an implantable medical device comprising:

a porous metal foam network having an open cell structure wherein the openings of each cell are formed by metal webs, at least some of the webs covered with at least one layer of metal particles, the metal particles being bonded to the metal webs wherein the scaffold includes a

plurality of pores having a size greater than about 100 μm wherein the metal of the particles is selected from the group consisting of titanium, titanium alloy, cobalt chrome alloy, niobium and tantalum.

100. (new) A porous metal scaffold for use in an implantable medical device comprising:

a porous metal foam network having an open cell structure wherein the openings of each cell are formed by metal webs, at least some of the webs covered with at least one layer of metal particles, the metal particles being bonded to the metal webs wherein the web metal is selected from the group consisting of titanium, titanium alloy, cobalt chrome alloy, niobium and tantalum.

101. (new) A porous metal scaffold for use in an implantable medical device comprising:

a porous metal foam network having an open cell structure wherein the openings of each cell are formed by metal webs, at least some of the webs covered with at least one layer of metal particles, the metal particles being bonded to the metal webs further comprising a biocompatible coating.

102. (new) The porous metal scaffold as set forth in claim 1 wherein said webs have partially hollow cores.

103. (new) The porous metal scaffold as set forth in claim 102 wherein the hollow cores of said metal webs are surrounded by an outer web wall that has openings therein.